

Remarks

Reconsideration of the application is respectfully requested on the basis of the amendments above and the following comments (in these Remarks, the different points raised in the Office Action of May 7, 2009, are discussed in order):

The “Response to Arguments” (point 2 on pages 2 and 3)

In this point the Examiner states:

“one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references”.

Applicant admits that, in the arguments filed March 24, 2009, the two items of the prior art, Aida and Ohara, are “individually” analyzed. This is done in the light of points 1 and 2 of the factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1,148 USPQ 459 (1966), as explained in point 4 of the Office Action.

Indeed, the differences between the prior art and the claims at issue can only be precisely ascertained by comparing each of the features, present in each of the claims at issue, with the features disclosed in each of the references of the prior art.

In the arguments filed March 24, 2009, Applicant concluded that:

“It can thus be concluded that features a), d) and e) are not disclosed in the prior art.” (page 10, top of the page).

This conclusion was clearly based on the “prior art”, or, in the present case, the combination of the references raised against claim 16: Aida and Ohara. Those features are disclosed in neither reference, and thus also not in the combined teachings of them.

In the same point on page 3, the Examiner states:

“Thus, the combination of Aida and Ohara teaches the claimed limitations”.

Applicant respectfully disagrees for the further reasons below.

In the same point on page 3, it is also stated that:

“Further, the claims don’t say anything about “the representation of the image and the indication of the image defects in a single combined image” and thus the references don’t need to teach this feature since it is not claimed.”

Applicant admits that claim 16 does not **explicitly** mention a representation of both the image and the indication of the image defects, in a single combined image. However, claim 16, amended March 24, 2009, mentions in the beginning **“an image displayed on a matrix display device”** and further **“modulating the operation of said matrix display device so as to emphasize or warn for the presence of said defective cells on the actual display of said image”** (enhancement added). From this it becomes clear that the method comprises an emphasizing or warning for the presence of defective pixels in a matrix display device and that this emphasizing or warning is done on the actual display of the image. Or, in plain words, the representation of the image and the indication of the image defects are done in a “single combined image”.

Notwithstanding, claim 16 and the correspondent claims have been amended in order to avoid any further misunderstanding.

In the same point on page 3, it is also stated:

“Further due to the “or” language of the claim, neither or the references need to teach feature “e” of the claims anyways as argued by the Applicant.”

Applicant respectfully draws attention to the fact that when it is necessary to show that “A or B” is novel, it is necessary that neither A nor B is taught by the prior art. However, as discussed below, the “or” feature has been deleted, in any event.

Rejections of claims under 35 U.S.C. § 103.

In the Office Action, page 4, point 5, claims 16-19, 22-28 and 31-32 presently stand rejected

under 35 USC § 103(a) as being unpatentable over Aida (JP 59-126967) in view of Ohara et al. (US 6,529,618).

This rejection is respectfully traversed for the following reasons.

Regarding claim 16

Claim 16 has been amended by adding, for clarification purposes, “*whereby the image comprises a plurality of pixels*” and by introducing in the feature relating to the modulating of said matrix display device:” *when displaying said image on said matrix display device and adapting in this way the image content of the pixels of said image, corresponding to said defective cells or corresponding to the pixels in the neighborhood of said defective cells*”. This amendment is based on the specification, page 17, lines 14 to 14 and there is thus no addition of new matter in the claim. The “or” feature, relating to the copy of the image, has been deleted in claim 16.

Amended claim 16 describes a method

- a) for avoiding misinterpretation of an image displayed on a matrix display device due to defective cells in the matrix display device, whereby the image comprises a plurality of pixels, the method comprising:
- b) obtaining information on the presence and the location of the defective cells in said matrix display device, and
- c) on the basis of this information,
- d) modulating the operation of said matrix display device when displaying said image on said matrix display device and adapting in this way the image content of the pixels of said image, corresponding to said defective cells or corresponding to the pixels in the neighborhood of said defective cells so as to emphasize or warn for the presence of said defective cells on the actual display of said image.

As set forth in the Office Action, Aida teaches feature b) (see the Office Action, page 4, last paragraph). But there is no teaching in Aida of any of the features a), c) or d) and there is also no

assertion in the Office Action that these features are disclosed in Aida.

The Examiner states that Ohara discloses

“a method for avoiding misinterpretation of an image displayed on a display due to defects, the method comprising:

obtaining information on the presence and the location of the defects (Column 17, lines 33-40 and 57-40 explain that the location of the defects are obtained), and on the basis of this information,

modulating the operation of said display so as to emphasize or warn for the presence of said defects on the actual display of said image (Figure 13 and 14 and column 19, lines 12-19 explain that the matrix display operation is changed to mark the display, i.e. emphasize/warn, for the presence of the defects.),”

From the wording of this statement, it is clear that the disclosure of Ohara does not completely cover the correspondent feature in claim 16. The following differences between the disclosure in Ohara and the features in amended claim 16 are highlighted:

- Ohara discloses “*a method for avoiding misinterpretation of an image displayed on a display due to defects*”. Amended claim 16 describes a method for avoiding misinterpretation of an image displayed on a **matrix** display device due to **defective cells in the matrix display device**. In other words: Ohara is not disclosing a matrix display device and Ohara is not disclosing a display having defective cells.

- Ohara discloses “*modulating the operation of said display so as to emphasize or warn for the presence of said defects on the actual display of said image*” while amended claim 16 describes modulating the operation of said matrix display device when displaying said image on said matrix display device and **adapting in this way the image content of the pixels of said image, corresponding to said defective cells or corresponding to the pixels in the neighborhood of said defective cells so as to emphasize or warn for the presence of said defective cells on the actual display of said image**. In other words Ohara does not disclose the adapting of the image content of the pixels of the image (displayed on the defective display) so as to emphasize or warn for the presence of said defective cells on the actual display of said image.

Ohara discloses an image sensing panel having defects and the image, sensed by this sensing panel, is displayed on a display without defects. As a consequence, it can thus been said that Ohara does not disclose feature a) (no display having defects) and also not feature b) (obtaining the information on the presence and the location of the defective cells in a matrix display device).

Regarding feature d): in Ohara, the pixels of the display corresponding to defects in the image sensing panels are “corrected” in order to get “a good radiation image” (col. 19, lines 55-59); there is thus no emphasizing or warning for the presence of defective cells on the actual display by adapting the image content of pixels of this image (feature d).

From the above, it follows that features a), b) and d) are not disclosed in Ohara.

Thus, it is clear that features a) and d) are not disclosed in the prior art (i.e. the combination of Aida and Ohara).

The question remains whether amended claim 16 would have been obvious over the prior art.

Features a) and d) are two features of the method according to amended claim 16. These features allow:

- the use of a display having defective pixels;
- adapting the image content of certain pixels of a displayed image so that the user of such a display is warned that the displayed image at the position of these pixels (or in the neighborhood of these pixels) is not correct.

In plain words: the user sees in the image itself where there is a risk for misinterpretation and can take precise corrective actions (see the specification, page 18, lines 4-17).

These two features are not disclosed in the prior art, in particular not in Ohara and using the image interpretation method taught by Ohara on a matrix display panel having defective pixels as taught by Aida would not lead to the results obtained by amended claim 16. From the passage in column 21, lines 21-26, it can be concluded that a medical doctor, using the method of Ohara

with the matrix display panel of Aida, would need at least two different images for grasping with a minimum of accuracy the position of the defective cells: the image before correction and a separate display with the positions of the defective pixels while in new claim 16, this medical doctor can grasp the position of the defective cells from one image. Although in Figure 14A, left hand part, of Ohara a display is shown with the image before correction, thus with the defects (without any enhancement), when using this display it may be very difficult, if not impossible to give the right interpretation to this display in all circumstances, the reasons being the small dimensions of the defects and the possible coincidence of the defects with transition regions of the image. Deriving the information concerning the position of the defective pixels from two different images would also lead to inaccuracies regarding the determination of these positions. For this reason, amended claim 16 is submitted to be non-obvious.

Also the idea of using the defective display itself as a means for avoiding misinterpretation of images displayed by this defective display would have been non-obvious. Indeed, in neither of the cited references, Aida or Ohara, is the defective “element” (display or image sensing panel) used for displaying whatever image.

It is thus submitted that amended claim 16 is also non-obvious in view of the prior art.

Regarding claim 23

Claim 23 has been amended by adding, for clarification purposes, “*whereby the copy of the image comprises a plurality of pixels*”. There is thus no new matter. The “or” feature has also been deleted.

Amended claim 23 has the same features b) and c) as amended claim 16, but feature a) is changed by replacing “misinterpretation of an image, displayed on a matrix display device ... whereby the image comprises a plurality of pixels” by “misinterpretation of a copy of an image, displayed on a matrix display device ... whereby the copy of the image comprises a plurality of pixels” and feature d) of amended claim 16 is replaced by:

e) adapting in said copy of said image, the image content of the pixels corresponding to said defective cells or of the pixels corresponding to the cells in the neighborhood of said defective

cells so, as to emphasize or warn for the presence of pixels corresponding to said defective cells, thereby avoiding misinterpretation of the copy of said image displayed on the matrix display device due to said defective cells.

In the Office Action the Examiner states that Aida discloses a method comprising features b) and c) and that Aida further discloses:

” in a copy of an image adapting the image content of the pixels corresponding to said defective cells or the pixels corresponding to the cells in the neighborhood of the defective cells so, as to emphasize or warn for the presence of pixels corresponding to said defective cells (Figure 3 shows display section 14. Page 7, lines 3-5 explain that the judgment results are displayed on the display section 14 at the position that corresponds to the pixel measured at that time. This means that in a copy of an image of the LED matrix display the location of the defective pixels will be made so as to warn and indicate this defects to a user.).” (page 5, second paragraph) and also:

” of adapting the image content of the defective cells or of cells in the neighborhood of the defective cells so, as to emphasize or warn for the presence in the copy of said image of pixels corresponding to said defective cells (Figure 3 shows display section 14. Page 7, lines 3-5 explain that the judgment results are displayed on the display section 14 at the position that corresponds to the pixel measured at that time. This means that in a copy of an image of the LED matrix display the location of the defective pixels will be made so as to warn the user about the defects.).” (page 8, third paragraph).

Again, from the differences in wording between these statements and the corresponding features of amended claim 23, it follows that these features are not covered by Aida. As explained already in relation with amended claim 16, Aida does not teach features a) and c).

Aida does not disclose feature e) either. In Aida, there is no image displayed on the defective matrix display device, and thus there cannot be a copy of this image. Whether Aida discloses a copy of an image of the LED matrix display is not relevant (although it remains questionable how a copy can be made of a non-existing image because there is no display of any image by the LED device).

Because there is no copy, it is not possible to adapt the image content of the pixels of the copy.

Feature e) of amended claim 23 is thus also not disclosed by Aida.

In the Office Action the Examiner it is states that Ohara discloses:

”in a copy of said image of pixels corresponding to said defective cells, adapting the image content of the defective pixels or of pixels in the neighborhood of the defective cells so as to emphasize or warn for the presence of defective cells, thereby avoiding misinterpretation of image displayed on a display device due to said defective cells (Figure 14A and 14 B and column 20, line 58 to column 21, line 26 explain that the image with the defect is displayed at the same time as the corrected image such that a misinterpretation of the image will be avoided.).” (page 6, paragraphs 3 and 4)

and on page 8, paragraph 2:

”Ohara et al. also disclose of a method for avoiding misinterpretation of a copy of an image displayed on a display device due to defects (Figure 13, 14A and 14B) comprising adapting in said copy of said image, the image content of the pixels corresponding to said defects so as to emphasize or warn for the presence of pixels corresponding to said defects (Figure 13, 14A and 14B all show the copy of the image taken that is displayed on the display device with the defects emphasized/warned for by using visual marking so as to avoid misinterpretation of the copy of the image taken.).”

For the reasons stated above in relation to amended claim 16, features a) and b) are not disclosed by Ohara.

Feature e) is also not disclosed by Ohara.

The reasoning in the Office Action is based on the alleged fact that cited figures 13-14 of US 6,529,618 (Ohara) should constitute a “paper copy” of an image displayed by display device, described by Ohara.

Although these figures are in fact not a copy of any real displayed image but just an outline for explaining the functioning of the system according to Ohara, they are considered to be a copy of an image displayed by the display device 56 of Figure 12 in Ohara.

The initial image in Ohara is constituted by an image of the body of a person, represented in Figures 14A and 14B. This initial image is taken by the image sensing device having some defective pixels. Different possibilities are proposed by Ohara to display the sensed initial images, in particular the possibility shown in the left hand part of Figure 14A and another possibility shown in the right hand part of Figure 14A. The former represents the displayed image with the defects and without correction, the latter represents the initial image after correction (col. 20, lines 12-27) but there is no representation of the displayed image with an adaptation of “the image content of the pixels corresponding to said defective cells or of the pixels corresponding to the cells in the neighborhood of said defective cells so, as to emphasize or warn for the presence of pixels corresponding to said defective cells” (feature e of claim 23). Because there is no representation with such adaptation, there cannot be such a copy either.

It is thus submitted that features a) and e) of amended claim 23 are not disclosed by Aida or Ohara.

Regarding non obviousness of amended claim 23, applicant refers to the discussion above in relation with non obviousness of amended claim 16. The method of amended claim 23 also gives the medical doctor the possibility to see on one copy the enhanced positions of the defective pixels relative to the different details of the image.

For analogous reasons as those given in relation with amended claim 16, amended claim 23 is also submitted to be non obvious over the prior art.

Regarding claims 25 and 31.

Claims 25 and 31 are apparatus claims corresponding to method claims 16 and 23, respectively.

Claims 25 and 31 have been amended along the lines of corresponding claims 16 and 23 and amended claims 25 and 31 have “apparatus” features corresponding to the method steps of amended claims 16 and 23.

For this reason, the same arguments apply to amended claims 25 and 31 as the arguments used above regarding claims 16 and 23.

Thus, amended claims 25 and 31 are also novel and non-obvious in view of the prior art.

Regarding claim 32

Claim 32 is a claim relating to a control unit, which has been amended along the lines of amended claims 25 and 31.

Because amended claim 32 is combination of the features of amended claims 25 and 31, it is submitted that amended claim 32 is novel and non-obvious in view of the prior art for the reasons given above in relation with claims 25 and 31 (and thus 16 and 23).

Regarding claims 17-19, 22, 24 and 26-28

Claims 17-19, 22, 24 and 26-28 are claims depending on an independent claim which is submitted to be novel and non-obvious. Therefore these claims are also submitted to be novel and non-obvious.

Regarding claims 20-21 and 29-30

In the Office Action, page 9, point 6, claims 20-21 and 29-30 presently stand rejected under 35 USC § 103(a) as being unpatentable over Aida (JP 59-126967) in view of Ohara et al. (US 6,529,618) and further in view of Johnson et al. (US 2004/0164939).

Claims 20-21 and 29-30 being dependent on a claim submitted to be novel and non-obvious in view of the prior art, they are also submitted to be novel and non-obvious in view of the prior art.

Conclusion

Every effort has been made to place the application fully in condition for allowance.

In view of the amendments to the independent claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance.

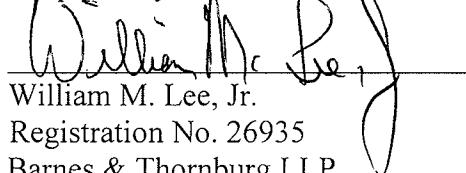
Accordingly, it is requested that claims 16-32 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the number shown.

Further and favorable reconsideration is urged.

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Respectfully submitted



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